

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) An adjustable nozzle assembly through which a lancet can be propelled by a lancing device into a lancing surface, the adjustable nozzle assembly, comprising:

an interior nozzle comprising a lancet wall, an assembly groove extending in a first direction, ~~and a ramped groove extending in a second direction deviating from the first direction, and a sloped mating ramp comprising a plurality of adjustment notches;~~

a collar comprising a collar pin that engages the ramped groove and slides relative to the ramped groove, the collar being adapted to rotate relative to the interior nozzle; ~~[[and]]~~

wherein the collar pin is configured to slide through the assembly groove to the ramped groove; and

further wherein the collar comprises a sloped collar ramp with a cantilevered detent on one end, wherein the sloped collar ramp and the detent rotate along the interior nozzle mating ramp causing the detent to engage and disengage the adjustment notches during the rotation; and

an exterior nozzle comprising a contact surface that extends beyond the lancet wall of the interior nozzle to contact the lancing surface, the exterior nozzle engaging the collar and being adapted to rotate relative to the interior nozzle; ~~[[,]]~~

~~wherein the collar pin is configured to slide through the assembly groove to the~~
~~ramped groove, and~~

wherein the ramped groove is sloped such that as the exterior nozzle rotates
relative to the interior nozzle, the distance that the contact surface extends
beyond the lancet wall changes, by an amount that corresponds to the slope of
the ramped groove.

2. (Canceled).

3. (Currently Amended) The nozzle assembly of claim 1, wherein:

~~the collar further comprises a sloped collar ramp, the sloped collar ramp~~
~~comprising a detent; and~~

~~the interior nozzle further comprises a sloped interior nozzle ramp, the sloped~~
~~interior nozzle ramp comprising a plurality of adjustment notches that can engage the~~
~~detent; and~~

~~wherein the slope of the collar ramp, the slope of the interior nozzle mating ramp,~~
and the slope of the ramped groove are approximately equal.

4. (Canceled).

5. (Original) The nozzle assembly of claim 3, wherein the detent forms a
slotted portion of the collar ramp.

6. (Canceled)

7. (Original) The nozzle assembly of claim 1, wherein the collar further comprises one or more collar alignment features, and the exterior nozzle further comprises one or more exterior nozzle alignment features that can engage the one or more collar alignment features.

8. (Original) The nozzle assembly of claim 1, wherein the contact surface is concave.

9. (Original) The nozzle assembly of claim 1, wherein the ramped groove comprises an overrotation groove.

10. (Currently Amended) A rearward body assembly of a lancing device that can propel a lancet into a lancing surface, the rearward body assembly, comprising:
a lancet holder comprising one or more retaining features and one or more spring surfaces at the distal end and one or more lancet holding features at the proximal end;
an interior tube comprising an open end and a slotted end through which the one or more retaining features extend, the interior tube being adapted to slidably engage the lancet holder;
a finger cover arranged along a periphery of the interior tube;
an internal compression spring comprising a first end and a second end, the first end of the internal compression spring being adapted to act on the slotted end of the

interior tube and the second end of the internal compression spring being adapted to act on the one or more spring surfaces of the lancet holder;

a retainer comprising a slotted surface at the distal end of the interior tube through which the one or more retaining features extend;

a rearward body, the rearward body engaging the retainer and positioned externally around the periphery of the interior tube; and

wherein longitudinal movement of the rearward body away from the interior tube compresses the interior compression spring; and

an external compression spring comprising a first end and a second end, the first end comprising a reduced coil diameter that engages the one or more retaining features of the lancet holder, the first end of the external compression spring being adapted to act on the lancet holder and the second end of the external compression spring being adapted to act on the slotted surface of the retainer,

wherein the one or more spring surfaces of the lancet holder engages both the internal compression spring and the external compression spring.

~~wherein longitudinal movement of the rearward body away from the interior tube compresses the interior compression spring.~~

11. (Original) The lancing device of claim 10, wherein the lancet holder further comprises a trigger extension, the trigger extension being adapted to engage both a trigger and the interior tube to load the lancing device and to oppose the force of the compression spring until the trigger is actuated.

12. (Original) The lancing device of claim 10, wherein the retainer further comprises one or more retainer alignment features, and the rearward body further comprises one or more rearward body alignment features that can engage the one or more retainer alignment features.

13. (Currently Amended) A lancing device that can propel a lancet into a lancing surface, the lancing device, comprising:

(i) an adjustable nozzle assembly through which the lancet can be propelled into a lancing surface, the adjustable nozzle assembly comprising:

an interior nozzle comprising a lancet wall, an assembly groove extending in a first direction, ~~and~~ a ramped groove extending in a second direction deviating from the first direction, and a sloped mating ramp comprising a plurality of adjustment notches;

a collar comprising a collar pin that engages the ramped groove and slides relative to the ramped groove, the collar being adapted to rotate relative to the interior nozzle; ~~[[and]]~~

wherein the collar pin is configured to slide through the assembly groove to the ramped groove; and

further wherein the collar comprises a sloped collar ramp with a cantilevered detent on one end, wherein the sloped collar ramp and the detent rotate along the interior nozzle mating ramp causing the detent to engage and disengage the adjustment notches during the rotation; and

an exterior nozzle comprising a contact surface that extends beyond the lancet wall of the interior nozzle to contact the lancing surface, the exterior nozzle engaging the collar and being adapted to rotate relative to the interior nozzle; [[,]]

~~wherein the collar pin is configured to slide through the assembly groove to the ramped groove, and~~

wherein the ramped groove is sloped such that as the exterior nozzle rotates relative to the interior nozzle, the distance that the contact surface extends beyond the lancet wall changes, by an amount that corresponds to the slope of the ramped groove.

(ii) a rearward body assembly, the rearward body assembly comprising:

a lancet holder comprising one or more retaining features and one or more spring surfaces at the distal end and one or more lancet holding features at the proximal end;

an interior tube comprising an open end and a slotted end through which the one or more retaining features extend, the interior tube being adapted to slidably engage the lancet holder;

a finger cover arranged along a periphery of the interior tube;

an internal compression spring comprising a first end and a second end, the first end of the internal compression spring being adapted to act on the slotted end of the interior tube and the second end of the internal compression spring being adapted to act on the one or more spring surfaces of the lancet holder;

a retainer comprising a slotted surface at the distal end of the interior tube through which the one or more retaining features extend;

a rearward body, the rearward body engaging the retainer and positioned externally around the periphery of the interior tube; and

wherein longitudinal movement of the rearward body away from the interior tube compresses the interior compression spring; and

an external compression spring comprising a first end and a second end, the first end comprising a reduced coil diameter that engages the one or more retaining features of the lancet holder, the first end of the external compression spring being adapted to act on the lancet holder and the second end of the external compression spring being adapted to act on the slotted surface of the retainer,

wherein the one or more spring surfaces of the lancet holder engages both the internal compression spring and the external compression spring, and

~~wherein longitudinal movement of the rearward body away from the interior tube compresses the interior compression spring.~~

wherein the rearward body assembly can releasably engage the adjustable nozzle assembly.

14. (Canceled).

15. (Original) The lancing device of claim 13, wherein:

~~the collar further comprises a sloped collar ramp, the sloped collar ramp comprising a cantilevered detent; and~~

~~the interior nozzle further comprises a sloped interior nozzle ramp, the sloped interior nozzle ramp comprising a plurality of adjustment notches that can engage the cantilevered detent; and~~

wherein the slope of the collar ramp, the slope of the interior nozzle mating ramp, and the slope of the ramped groove are approximately equal.

16. (Canceled).

17. (Original) The lancing device of claim 15, wherein the detent forms a slotted portion of the collar ramp.

18. (Canceled).

19. (Original) The lancing device of claim 13, wherein the collar further comprises one or more collar alignment features, and the exterior nozzle further comprises one or more exterior nozzle alignment features that can engage the one or more collar alignment features.

20. (Original) The lancing device of claim 13, wherein the contact surface is concave.

21. (Original) The lancing device of claim 13, wherein the ramped groove comprises an overrotation groove.

22. (Original) The lancing device of claim 13, wherein the lancet holder further comprises a trigger extension, the trigger extension being adapted to engage both a trigger and the interior tube to load the lancing device and to oppose the force of the compression spring until the trigger is actuated.

23. (Original) The lancing device of claim 13, wherein the retainer further comprises one or more retainer alignment features, and the rearward body further comprises one or more rearward body alignment features that can engage the one or more retainer alignment features.

24. (Withdrawn) A method of assembling an adjustable nozzle assembly of a lancing device, the method comprising:

providing an interior nozzle comprising an assembly groove in communication with a ramped groove, the assembly groove being separated from the ramped groove by a raised boss;

providing a collar with a collar pin; and

attaching the collar to the interior nozzle by sliding the collar pin in the assembly groove, over the raised boss, and into the ramped groove.

25. (Withdrawn) The method of claim 24, wherein the collar further comprises a cantilevered detent and wherein the interior nozzle further comprises a plurality of adjustment notches that can engage the cantilevered detent.

26. (Withdrawn) The method of claim 24, wherein:

the collar further comprises a sloped collar ramp, the sloped collar ramp comprising a cantilevered detent; and

the interior nozzle further comprises a sloped interior nozzle ramp, the sloped interior nozzle ramp comprising a plurality of adjustment notches that can engage the cantilevered detent;

and wherein the slope of the collar ramp, the slope of the interior nozzle ramp, and the slope of the ramped groove are approximately equal.

27. (Withdrawn) The lancing device of claim 26, wherein the detent forms a cantilevered portion of the collar ramp.

28. (Withdrawn) The lancing device of claim 26, wherein the detent forms a slotted portion of the collar ramp.

29. (Withdrawn) The method of claim 24, wherein the raised boss can oppose the collar pin sliding from the ramped groove to the assembly groove.

30. (Withdrawn) The method of claim 24, wherein the ramped groove comprises an over-rotation groove.

31. (Withdrawn) The method of claim 24, wherein the collar further comprises one or more collar alignment features, the method further comprising:

providing an exterior nozzle comprising one or more exterior nozzle alignment features that can engage the one or more collar alignment features;

aligning the one or more collar alignment features with the one or more exterior nozzle alignment features; and

engaging the exterior nozzle to the collar.

32. (Withdrawn) A method of adjusting a lancing depth of a nozzle assembly in a lancing device, the nozzle assembly comprising an exterior nozzle, an interior nozzle comprising a ramped groove, and a collar engaging the exterior nozzle and comprising a collar pin- that can slidably engage the ramped groove, the method comprising:

rotating the exterior nozzle and the collar relative to the interior nozzle to slide the collar pin in the ramped groove of the interior nozzle to adjust the lancing depth.

33. (Withdrawn) The method of claim 32, wherein the collar further comprises a collar ramp, the collar ramp comprising a detent, and the interior nozzle further comprises an interior nozzle ramp, the interior nozzle ramp comprising a plurality of adjustment notches that can engage the detent, and wherein rotating the exterior nozzle and the collar relative to the interior nozzle to slide the collar pin in the ramped groove of the interior nozzle to adjust the lancing depth further comprises:

selecting the lancing depth by rotating the exterior nozzle to engage the detent with one of the adjustment notches.

34. (Withdrawn) The method of claim 33, wherein the slope of the collar ramp, the slope of the interior nozzle ramp, and the slope of the ramped groove are approximately equal.

35. (Withdrawn) The method of claim 33, wherein the detent forms a cantilevered portion of the collar ramp.

36. (Withdrawn) The method of claim 33, wherein the detent forms a slotted portion of the collar ramp.

37. (Withdrawn) The method of claim 33, wherein the ramped groove comprises an over-rotation groove.